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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/981,960	10/18/2001	Hans Eberle	SUN-P6346-SPL	7283

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EXAMINER	
TSAI, CAROL S W	

ART UNIT	PAPER NUMBER
2857	

DATE MAILED: 10/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/981,960	EBERLE ET AL.	
	Examin r	Art Unit	
	Carol S Tsai	2857	

-- The MAILING DATE of this communication app ars on the cov r sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 August 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-34,40,41 and 44-51* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-34,40,41 and 44-51* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-3, 9, 12, 19, 20, 23, 30, 40, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Publication 2003/0036351 to Forbes in view of U. S. Publication 2002/0053001 to Miura et al.

With respect to claims 1-3, 19, 30, and 40, Forbes discloses a memory module for storing data, including: a) a first circuit board having a plurality of electrical terminals for interfacing with a second circuit board (see Figs. 1 and 2 and paragraphs 0024 and 0025); b) a volatile memory device (memory device110 shown on Fig. 1) mounted on the first circuit board and c) a non-volatile memory device (memory device110 shown on Fig. 1) mounted on the first circuit board, the non-volatile memory device storing memory module information (see paragraph 0022 and page 4, claims 12 and 13); and d) a radio transmitter (transmitter/receiver 120 shown on Fig. 1) mounted on the first circuit board, the radio transmitter operable to receive said information from non-volatile memory device and transmit said information to a radio receiver (transmitter/receiver 422 shown on Fig. 1) mounted on the second circuit board thereby enabling

a device on the second circuit board to utilize said information to write data to the volatile memory device (see paragraphs 0020-0026).

Forbes does not disclose the information related to the number of rows on the memory module and the number of columns on the memory module.

Miura et al. teach the information related to the number of rows on the memory module and the number of columns on the memory module (see Figs. 1 and 21 and paragraphs 0143 and 0144).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Forbes's system to include the information related to the number of rows on the memory module and the number of columns on the memory module, as taught by Miura et al., because columns and rows identified as addresses being a conventional formatted structure defined in the memory module for storing data.

As to claims 9 and 20, Forbes also discloses the radio transmitter being a radio transceiver (transmitter/receiver 120 shown on Fig. 1).

As to claims 12 and 23, Forbes also discloses the radio transceiver being operable to receive radio signals from a second radio transmitter (see Fig. 1).

Forbes does not disclose receive radio signals from a third radio transmitter.

The Examiner takes Official Notice that it is known to duplicate or multiply components in order to duplicate or multiply their functions.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Forbes's system to include receive radio signals from a third radio

transmitter, in order that information of memory module stored in the non-volatile can be transmitted to more locations.

As to claim 41, Forbes also discloses using the received memory module information to configure a memory controller (see paragraph 0020).

4. Claims 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forbes in view of Miura et al. as applied to claims 1 above, and further in view of U. S. Publication 2002/0118175 to Liebenow et al.

As noted above, with respect to claims 4-7, Forbes in combination with Miura et al. teach all the features of the claimed invention, but do not disclose the volatile memory device being a synchronous dynamic random access memory (SDRAM) device and the non-volatile memory device being an electrically programmable read only memory (EPROM)/an electrically erasable programmable read only memory (EEPROM)/a serial electrically erasable programmable read only memory (SEEPROM).

Liebenow et al. teach volatile memory device being a synchronous dynamic random access memory (SDRAM) device and the non-volatile memory device being an electrically programmable read only memory (EPROM)/an electrically erasable programmable read only memory (EEPROM)/a serial electrically erasable programmable read only memory (SEEPROM) (see paragraph 0058).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Forbes in combination with Miura et al.'s system to include volatile memory device being a synchronous dynamic random access memory (SDRAM) device

and the non-volatile memory device being an electrically programmable read only memory (EPROM)/an electrically erasable programmable read only memory (EEPROM)/a serial electrically erasable programmable read only memory (SEEPROM), as taught by Liebenow et al., in order to allow information to be stored and retrieved.

5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Forbes in view of Miura et al. as applied to claim 1 above, and further in view of U. S. Publication 2002/0101907 to Dent et al.

As noted above, Forbes in combination with Miura et al. teach all the features of the claimed invention, but do not disclose the non-volatile memory being connected to the radio transmitter via an I^2C bus.

Dent et al. teach the non-volatile memory being connected to the radio transmitter via an I^2C bus (see paragraph 0046).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Forbes in combination with Miura et al.'s system to include the non-volatile memory being connected to the radio transmitter via an I^2C bus, as taught by Dent et al., in order that information stored in the non-volatile memory can be transferred to the radio transmitter.

6. Claims 10, 11, 13-18, 21, 22, 24-29, and 31-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forbes in view of Miura et al. as applied to claims 1, 9, 19, 20, and 30 above, and further in view of Applicants' admitted Prior Art (referred thereafter as AAPA).

As noted above, with respect to claims 10, 11, 13-18, 21, 22, 24-29, and 31-34, Forbes disclose the processor (controller 130 shown on Fig. 1) that is mounted on the first circuit board.

Forbes in combination Miura et al. do not disclose determining the signal strength and the propagation delay of a radio signal received from a first transmitter, the signal strength and the propagation delay of a radio signal received from a second transmitter, and the location of the memory module based upon the determined signal strengths and propagation delays.

AAPA discloses determining the signal strength and the propagation delay of a radio signal received from a first transmitter, the signal strength and the propagation delay of a radio signal received from a second transmitter, and the location of the memory module based upon the determined signal strengths and propagation delays (see page 8, lines 7-18).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Forbes in view of Miura et al.'s system to include determining the signal strength and the propagation delay of a radio signal received from a first transmitter, the signal strength and the propagation delay of a radio signal received from a second transmitter, and the location of the memory module based upon the determined signal strengths and propagation delays, as taught by AAPA, in order to determine the identity of the module slot in which the memory module is located (see AAPA page 8, lines 17-18).

7. Claims 44-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Publication 2003/0036351 to Forbes in view of Applicants' admitted Prior Art (referred thereafter as AAPA).

With respect to claims 44-47, Forbes discloses a method of determining the location of a memory module (memory module 100 shown on Fig. 1) that is installed in a first circuit with respect to the first circuit board (see Fig. 1 and paragraph 0031).

Forbes does not disclose a) determining the signal strength of a first radio signal; b) determining the signal strength of a second radio signal; and c) based upon the determined signal strengths, determining the location of the memory module.

AAPA teaches a) determining the signal strength of a first radio signal; b) determining the signal strength of a second radio signal; and c) based upon the determined signal strengths, determining the location of the memory module (see page 8, lines 7-18).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Forbes in view of Miura et al.'s system to include a) determining the signal strength of a first radio signal; b) determining the signal strength of a second radio signal; and c) based upon the determined signal strengths, determining the location of the memory module, as taught by AAPA, in order to determine the identity of the module slot in which the memory module is located (see AAPA page 8, lines 17-18).

8. Claims 48-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forbes in view of Miura et al. as applied to claim 1 above, and further in view of U. S. Patent No. 4,870,704 to Matelan et al.

As noted above, Forbes in combination with Miura et al. teach all the features of the claimed invention, but do not disclose the radio transmitter being operable to transmit information that indicates that the memory module failed a test.

Matelan et al. teach the radio transmitter being operable to transmit information that indicates that the memory module failed a test (see col. 18, lines 16-25 and lines 43-47; col. 19, line 60 to col. 20, line 5; col. 21, lines 20-33; and col. 23, lines 64-68).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Forbes in view of Miura et al.'s system to include the radio transmitter being operable to transmit information that indicates that the memory module failed a test, as taught by Matelan et al., in order that failed component may be turned off and the system allowed to proceed in a degraded mode (see col. 21, lines 31-33).

Response to Arguments

9. Applicant's arguments with respect to claims 1-34, 40, 41, and 44-51 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carol S. Tsai whose telephone number is (703) 305-0851. The examiner can normally be reached on Monday-Friday from 7:30 AM to 4:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached on (703) 308-1677. The fax number for TC 2800 is (703) 308-7382. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2800 receptionist whose telephone number is (703) 308-1782.

In order to reduce pendency and avoid potential delays, Group 2800 is encouraging FAXing of responses to Office actions directly into the Group at (703) 308-7382. This practice may be used for filing papers not requiring a fee. It may also be used for filing papers which require a fee by applicants who authorize charges to a PTO deposit account. Please identify the examiner and art unit at the top of your cover sheet. Papers submitted via FAX into Group 2800 will be promptly forwarded to the examiner.

Carol S. Tsai

09/10/03

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